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BEFORE THE
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268–0001

FIRST-CLASS MAIL AND PERIODICALS SERVICE STANDARD CHANGES, 2021	Docket No. N2021-1

RESPONSES OF THE UNITED STATES POSTAL SERVICE TO QUESTIONS 1-14 & 16-20 OF PRESIDING OFFICER'S INFORMATION REQUEST NO. 2
(May 21, 2021)

The United States Postal Service hereby provides its responses to Questions 1-14 & 16-20 of Presiding Officer's Information Request No. 2, issued on May 14, 2021. Each question is stated verbatim and followed by the response. The response to Question 15 is forthcoming, as will be addressed in a separate motion for late acceptance.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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RESPONSES OF UNITED STATES POSTAL SERVICE INSTITUTIONAL WITNESS OWENS TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 1. Please confirm that the Postal Service's proposal provides longer processing and transportation windows for affected mail volumes.

a. If confirmed, please explain how these longer processing and transportation windows do not result in any estimated cost savings in cost segments associated with mail processing.

b. If confirmed, please describe how the longer windows may balance workload and reduce overtime and premium pay.

c. If not confirmed, please explain.

RESPONSE:

Confirmed in part and not confirmed in part. The Postal Service's proposal provides longer transportation windows, but does not provide longer processing windows.

a. Longer transportation windows do not result in savings in cost segments of processing because the segments of transportation and processing are distinct.

b. See responses above. The proposal does not provide longer processing windows, and should not affect processing workload, overtime, and premium pay.

c. The Postal Service's proposal provides longer transportation windows. The planned processing windows were modeled to remain the same; however, the buffer time between the planned mail processing clearance time and the transportation departure time could be increased, in many cases, due to the longer transportation window. This added time could be used to account for variation in mail processing clearance to help ensure all volumes are loaded on the designed transportation. The intent of this proposal is to improve the transportation network from both a cost and

reliability perspective. Mail processing window changes are not part of the proposal.

RESPONSES OF UNITED STATES POSTAL SERVICE INSTITUTIONAL WITNESS OWENS TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 2. Please refer to the United States Postal Service Office of Inspector General, Report No. 21-071-R21, Excessive Wait Times to Accept Commercial Mail Shipments at the Cleveland Processing & Distribution Center, March 10, 2021 (OIG Report No. 21-071-R21).[1] In the report, the Office of Inspector General (OIG) observed gridlock conditions at the Cleveland Processing and Distribution Center on December 11, 2020, December 15, 2020, and December 16, 2020. OIG Report No. 21-071-R21 at 2. Specifically, the plant experienced issues accepting additional mail, including drop shipments, because previously accepted mail had reached the dock doors. *Id*. The OIG found that "Cleveland P&DC management did not communicate the need for a redirect to Postal Service Headquarters timely and, once management implemented the temporary redirect, it was not recorded accurately in the [Facility Access and Shipment Tracking] system." *Id*. Please also refer to United States Postal Service Office of Inspector General, Report No. 21-075-R21, Management of Highway Contract Route Contractor Failures at the New Jersey International Network Distribution Center, March 30, 2021 (OIG Report No. 21-075-R21).[2] In that report, the OIG found that from January 1 to December 31, 2020, the New Jersey International Network Distribution Center had 14,321 late trips, with 11,213 of the late trips being attributed to contractor failures. OIG Report No. 21-075-R21 at 3. Please describe what steps the Postal Service will take in advance of implementation of its plan to address plant issues (such as described above) to ensure the new standards are met.

RESPONSE:

The Postal Service experienced unprecedented package volumes during the holiday period in FY 2021 due to the intersection of the holiday season with the increase in packages linked to the COVID-19 pandemic. The network was unable to support the increase in volume due to insufficient processing and staging space, processing capacity, and transportation capacity. In addition, the pandemic contributed to decreased employee availability, further impacting the ability to manage the increased volumes. These factors converged to create a situation in which facilities, like the New

[1] Available at *https://www.uspsoig.gov/sites/default/files/document-library-files/2021/21-071-R21.pdf* (accessed May 14, 2021).

[2] Available at *https://www.uspsoig.gov/sites/default/files/document-library-files/2021/21-075-R21.pdf* (accessed May 14, 2021).

Jersey International Network Distribution Center, did not have enough space or capacity to accept and process drop shipments as they normally would.

In order to continue providing reliable service, the Postal Service has addressed capacity issues by acquiring additional space in 46 locations to accommodate First-Class Mail and package volume growth. The Postal Service also purchased 138 additional package sorting machines this year and added over 14,000 permanent positions to its workforce. This will allow it to handle additional volume in the processing and delivery network. The increased space and fluidity will free up needed space for drop shipments.

Similar to what the Postal Service successfully accomplished prior to the pandemic, the Postal Service continues its daily review and analysis of service failures. The analysis allows it to promptly address root causes of process failures including efficiency and opportunity to maximize machine utilization.

The Postal Service is also addressing bottlenecks in its logistics networks by contracting additional Surface Transportation Centers to increase capacity to distribute mail throughout ground networks. The Postal Service performs daily mitigation of its air networks capacity shortfall and has begun its K9 project (using canines to screen packages) to alleviate bottlenecks in moving packages through the commercial air network.

In addition, with respect to contractor failures, the Postal Service applies a five step remediation process that starts with discussion and ends with termination of contract if issues are not resolved timely.

RESPONSES OF UNITED STATES POSTAL SERVICE INSTITUTIONAL WITNESS OWENS TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

A series of unique events culminated in the delay of the redirection entry in the Facility Access and Shipment Tracking (FAST) system for the Cleveland Processing & Distribution Center (P&DC). Initially, the Cleveland P&DC was expected to resume operations within a week, so the redirection information was not submitted in FAST, though it was communicated via an Industry Alert. However, once the redirect was extended another week, it was entered into FAST. Although the redirect information was entered on Friday, December 11, it was not processed in FAST until the next business day, Monday, December 14. An error in the FAST system was identified on that date, requiring corrections to the program coding on Tuesday, December 15, resulting in the delay of processing the Cleveland entry. As a result, the redirection files were generated on Wednesday, December 16 in FAST to allow appointment scheduling based on the redirects. Due to the unique set of circumstances, the Postal Service believes this was a one-time occurrence and that the redirect process for FAST does not need to be modified.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS CINTRON TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 3. Please refer to USPS-T-1 at 10, where you state "we expect to require fewer surface transportation trips over a given period than we currently require." Further, "we do not anticipate increased challenges with respect to driver shortages/availability or motor vehicle accidents." *Id.* at 10 n.7. Please also refer to Daniella Genovese, *Truck Driver Shortage Affecting Deliveries Nationwide*, April 13, 2021, Fox Business[1] that indicates the shortage is expected to grow in coming years, and will require approximately 1.1 million additional drivers over 10 years to keep up with demand. Please explain the basis for your belief, and provide any supporting material necessary, that the Postal Service will not face challenges with respect to driver shortages after the proposal is implemented.

RESPONSE:

The added transportation window will allow better utilization of the existing surface network. The Postal Service will have added flexibility to route volumes via STCs. The modeling indicates opportunity for significant transportation efficiency gains within the existing surface network that would offset the added transportation needed to shift air volumes to the surface network.

[1] Available at *https://www.foxbusiness.com/lifestyle/truck-drivers-shortage-2021* (accessed May 14, 2021).

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS CINTRON TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 4. Please describe and provide results of any operational tests at the Postal Service performed (and whether those tests were conducted during peak season) used to demonstrate the Postal Service can meet its proposed standards.

RESPONSE:

No operational tests were performed to demonstrate the Postal Service can meet its proposed standards.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS CINTRON TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 5. Please refer to USPS-T-1 at 10, where you describe Postal Service difficulties in using the air transportation due to weather delays.

a. Please explain the effect that weather delays may have on the surface transportation network, and how that might compare to the air transportation network.

b. Please provide any data or information the Postal Service has used to calculate the service impact of weather-related delays in the air or surface transportation networks. If no such data or information exist, please describe the process the Postal Service uses to identify the impact of weather delays on service performance, and respond to those impacts.

RESPONSE:

a. Weather delays can slow surface transportation and cause a significant delay if a driver runs out of hours, or misses a relay or transfer point. Air delays can similarly cause missed hub sorts and transfers. The main difference between the two is that air delays typically impact significantly more volume per trip, and there are less alternatives to route delayed air volumes. Drivers can mitigate surface delays by adjusting routes. Volume may not arrive at final destination on-time; however, there is a greater chance to mitigate failure.

b. We do not have specific data on weather related delays to compare impacts to air and surface networks. One case study of Winter Storm Viola, which occurred between February 15th and February 20th, 2021. This storm resulted in widespread snow and ice across much of the United States. Below is an example of service performance for First-Class Mail letter and flat volume during a 16-week period including the impact from

Winter Storm Viola. Over the 16-week period, surface volume had a higher on-time performance by 1.4% points versus air volume. During the 3-weeks impacted by the storm, surface volume outperformed air by 9.3% points.

FCM letters/cards/flats (3-5 day): 1/23/2021 - 5/14/2021				
	% On-time			
Surface:	80.0%			
Air:	78.6%			
Surface - Air:	1.4%			
Excluding Winter Storm impact (2/15/2021 - 3/5/2021):				
	% On-time			
Surface:	81.6%			
Air:	81.9%			
Surface - Air:	-0.3%			
During Winter Storm impact (2/15/2021 - 3/5/2021):				
	% On-time			
Surface:	72.4%			
Air:	63.2%			
Surface - Air:	9.3%			
Source: IV SPM Mail Processing Performance				

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS CINTRON TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

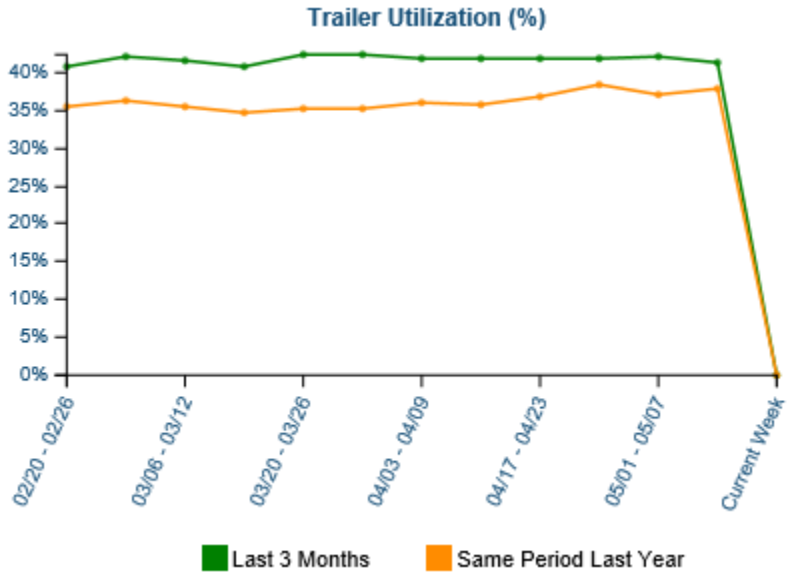
Question 6. Please refer to USPS-T-1 at 10, where you state, "…current average utilization of surface transportation capacity is 42 percent." Please explain how this number is calculated. Please confirm that this is the average capacity utilization for the first two quarters of FY 2021. If not confirmed, please explain what time period this number applies to.

a. Please provide a histogram of the distribution of the data used to calculate the 42 percent national average as well as key descriptive statistics including number of observations, median, mode, range, and standard deviation.

b. Please provide the average annual utilization of surface transportation from FY 2014 to FY 2020.

RESPONSE:

Not confirmed. The 42 percent utilization referenced in the testimony was the network plant-to-plant weekly HCR utilization pulled from Surface Visibility. It is based on the containers loaded or unloaded from a trailer compared to the maximum number of containers that can fit on a trailer (single layer).



RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS CINTRON TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

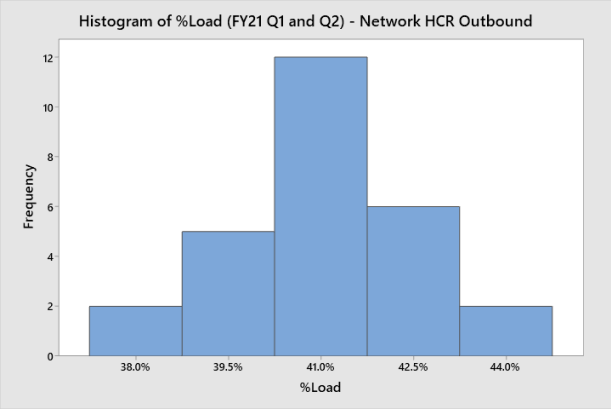
a. FY21 Q1 and Q2 (10/1/2020 – 3/31/2021): Trailer Utilization

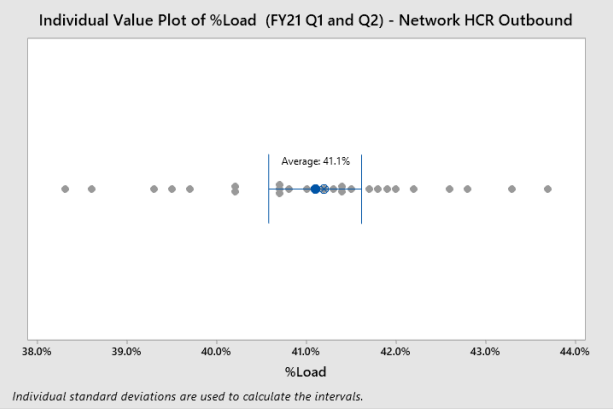
Statistics

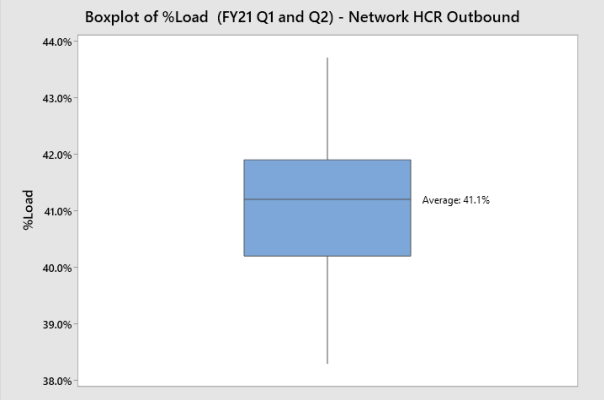
Variable	Total Count	Mean	StDev	Minimum	Q1	Median	Q3	Maximum	Range
%Load	27	0.41096	0.01311	0.38300	0.40200	0.41200	0.41900	0.43700	0.05400

Variable	Mode	N for Mode
%Load	0.407	3

- Number of observations: 27
- Average: 41.1%
- Median: 41.2%
- Mode: 40.7%
- Range: 5.4%
- Standard deviation: 0.01311







b. Please see the file that accompanies the filing of this response, named "Q6b - TRACS Utilization.xlsx" and submitted as library reference USPS-LR-N2021-1-16.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS CINTRON TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 7. Please refer to USPS-T-1 at 29, where you state, "The network transportation changes discussed above would require some modifications to the Postal Service's mail processing operations. The Postal Service does not anticipate that the necessary mail processing changes, themselves, would materially affect cost or revenue."

a. Please provide a list of anticipated changes in mail processing operations anticipated at this time to be necessary as a result of this proposal.

b. Please provide an explanation of all analysis conducted, including any data analyzed, by the Postal Service that led to the conclusion, "The Postal Service does not anticipate that the necessary mail processing changes, themselves, would materially affect cost or revenue." If no formal analysis was conducted, please explain the basis for the statement.

RESPONSE:

a. Some mail processing changes anticipated to be impacted from this proposal are:

- Reduction in airline assignment operations (reduced scanning and sorting to air separations)
- Increase in tray sortation to surface lanes
- Shift in volume arrival and dispatch profiles

b. No formal analysis was completed on the expected impact to the workload in Mail Processing after consulting with Mail Processing and Logistics. After reviewing, it was determined that there would be no material impact to cost or revenue. Lanes shifting from air to surface will continue to be handled in a similar fashion, but in some cases, in a different operation. The volume will continue to dispatch from and arrive at the same facilities,

but with shifted times and on surface network trips versus trips from Airports and/or Terminal Handling Services.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS CINTRON TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 8. Please refer to USPS-T-1 at 32, where you state "Because the Postal Service anticipates cost savings as a result of these changes, there will likely be fewer total expenses related to contracted transportation of mail." Please identify or provide all data and analyses used to support the evaluation of lower contracted transportation expenses as "likely."

RESPONSE:

The reductions in costs are based on the modeling results and expected reductions as described in Whiteman's testimony USPS-T-2 at 10 through 13. The results show opportunity for reduction in volume assigned to the air network, and overall reduction in surface transportation mileage and trips. This would result in lower contracted transportation expenses.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS HAGENSTEIN (REDIRECTED FROM WITNESS WHITEMAN) TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 9. Please refer to USPS-T-2 at 14. The Postal Service estimates annual net savings of $279.6 million, less the estimated net decrease in annual contribution of $104.8 million, for an annual estimated improvement in net income of $174.8 million.

a. Please discuss whether the Postal Service has calculated implementation costs for the proposed changes.
b. Please provide any documentation and calculation for the implementation costs, if available.

RESPONSE:

a. It is estimated that systems updates would cost approximately $550,000. Other implementation costs beyond the $550,000 already estimated for systems updates would be minor in nature including some overtime hours performed by existing staff.

b. Please see the files that accompany the filing of this response, submitted as library reference USPS-LR-N2021-1-15. Employee user ID numbers have been redacted from the files.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS HAGENSTEIN TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 10. Please refer to USPS-T-3 at 6, where you state "This portion of my testimony describes the evaluation of how the proposed service standard modification allows for additional transport time and increased efficiencies across the network for FCM and end-to-end Periodicals."

a. Please define "efficiencies across the network" as used in this sentence.
b. Please identify any inefficiencies you suspect may occur due to the proposed changes.

RESPONSE:

a. "Increased efficiencies across the network" refers to shifting volumes to more cost-effective modes of transportation and reducing surface transportation requirements between origin and destination pairs. By adding time to the transportation window, more destinations can be combined into trips, improving utilization, and reducing the number of trips otherwise needed in the current environment.

b. Inefficiencies that may occur as a result of the proposed changes include shifting lanes from air to surface that may not or no longer have volume to warrant surface transportation, and increases in Surface Transfer Center operations to cross-dock and build full trailers and reduce trips.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS HAGENSTEIN TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 11. Please refer to USPS-T-3 at 7, where you state, "The iterative process first created a model to optimize the current surface pairs…." Please explain whether this first iterative step or any subsequent iterative steps in the transportation model altered the number or location of processing facilities, or whether the facilities/nodes in the transportation network reflect the current number and location of facilities/nodes remained constant through all iterations of the model?

RESPONSE:

The number of nodes remained constant through all iterations of the model.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS HAGENSTEIN TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 12. Please refer to USPS-T-3 at 8.

a. Please explain how you calculated the estimated costs for surface trips ($2.50 per mile) and air transportation ($7.50 per cubic foot).
b. Please provide calculations for estimated costs of surface trips and air transportation annually from FY 2015 through FY 2020.

RESPONSE:

a. The estimated cost for each surface trip lane added to transport air volumes was estimated using $2.50 per mile, multiplied by the mileage for that trip. For multiple leg trips, the longest leg was used in the assessment, which was typically from origin to destination STC. The cost of the trip was compared to an estimated cost of flying the volume. The cost of flying the volumes was based on $7.50 per cubic foot and multiplying that rate by the raw cubic feet conversion of the volume being transported on that lane. The conversion from pieces to cubic feet was based on the percent load of each container multiplied by 37.5 cubic feet per container.

b.

FY	Air Cost ($000s)	Surface Cost ($000s)
15	2,150,802	3,655,529
16	2,468,660	3,881,522
17	2,481,219	4,126,054
18	2,892,521	4,357,996
19	3,069,965	4,557,826
20	3,459,879	4,798,463

Source: Public Cost Segments and Components, CS14

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS HAGENSTEIN TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 13. Please refer to USPS-T-3 at 10 and 15, where you indicate that volume conversions to All Purpose Containers were limited to 75 percent capacity to prevent unrealistic containerizations of 100 percent capacity.

a. Please explain why 75 percent capacity is a realistic assumption.
b. Please provide any quantitative support developed to support the 75 percent assumption.

RESPONSE:

a. 75 percent capacity of the containers was used to be conservative and account for additional containers that may be generated from multiple operations for the same destination.

b. No quantitative support was developed to support the 75 percent assumption.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS HAGENSTEIN TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 14. Please refer to USPS-T-3 at 13, where you explain that many mail processing facilities are not able to dispatch mail by 02:00 because they are not capable of dispatching that early. Please explain the reasons why a facility would not be capable of meeting a 02:00 dispatch time.

RESPONSE:

Many factors can contribute to a facility not being capable of meeting a 02:00 dispatch time, including: mail arrival profiles impacted by transportation delays, equipment reliability issues, staffing availability issues, planning and volume forecast error, mail preparation and readability issues, integrated dispatch and receipt throughput constraints, and delays in upstream operations impacting clearance of subsequent operations.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS HAGENSTEIN TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 16. Please refer to USPS-T-3 at 15, where you identify a number of modelling constraints, such as "[m]ulti-stop trips were allowed with a maximum of two extra stops," and "trips were structured as 'all picks and one drop' or as 'all drops and one pick.'" Please explain how each of these assumptions compares to the reality of the Postal Service's existing transportation network.

RESPONSE:

The constraints in the model were based on realities of the Postal Service's existing network and were derived from feedback from leadership responsible for managing the surface network. Multi-stops and load sequencing are planned in today's network and were included in the modeling. The number of stops en route to a final destination is limited to avoid complexity and reduce chances of error.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS MONTEITH TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 17. Please refer to USPS-T-4 at 19, where you state "the proposed changes may improve customer satisfaction…." Please provide any quantitative or qualitative studies that may have contributed to this conclusion beyond the appendixes provided as part of the testimony.

RESPONSE:

Beyond the materials cited or provided in connection with my testimony, no other studies contributed to the conclusion that "'the[se] proposed changes may improve customer satisfaction . . . .'"

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS MONTEITH TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 18. Please refer to USPS-T-4 at 20, where you reference a USPS OIG survey conducted in 2019 that demonstrated 71 percent of respondents expected their sent mail to arrive in 7 days. Are you aware of any intervening research, from any source, that may indicate different customer expectations since the 2019 survey?

RESPONSE:

Not to my knowledge; however, I find it notable that the February 25, 2021 Office of Inspector General Audit Report entitled "Peak Season Air Transportation" referenced and cited its 2019 survey.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS MONTEITH TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 19. Please refer to USPS-T-4 at 23, where you discuss soliciting input from election mailers. Please describe the Postal Service's specific communication plan and outreach with regard to election mail with regard to the proposed changes.

RESPONSE:

The Postal Service is proud of its role in the electoral process. Our task, as the Postal Service, is to ensure that we provide secure and timely delivery of the ballots that are entrusted to us for mailing, as well as to ensure that both elections officials and individual voters who choose to utilize the mail understand how to do so effectively.[1] To that end, we have developed and fostered close working relationships with state and local election officials. We regularly communicate with national election associations, federal organizations, state election executives, and local election officials to inform them of any changes and garner their feedback, comments, suggestions, and concerns.

This structure has served all stakeholders well. As announcements are made and changes occur, we work with election officials to ensure they are aware of the changes, understand the changes, and prepared for any elections. We have been and will continue to rely upon this structure for the proposed service standard changes to ensure election officials are prepared for any remaining statewide November 2021 elections, 2022 midterm elections, and future elections.

In addition to our regular communications, the Postal Service has had two briefings with election officials since the release of the "Delivering for America" Plan. We briefed the leadership of the National Association of Secretaries of State ("NASS") and the National Association of State Election Directors ("NASED"). The

[1] USPS Post-Election Analysis, *Delivering the Nation's Election Mail in an Extraordinary Year*, Jan. 19, 2021 (https://about.usps.com/newsroom/national-releases/2021/usps_postelectionanalysis_1-12-21_georgia.pdf).

other briefing was with the Secretaries of State and the State Election Directors. At both briefings, the proposed service standards changes were discussed, and feedback on the proposal was received.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS THRESS TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Question 20. Please refer to USPS-T-5 at 25.

a. Please provide a general explanation of how you assess the goodness-of-fit of each of the econometric models discussed in your testimony.
b. Please explain how well the model you have provided fits the actual data provided from the years 2015 to 2017. To the extent that any differences exist, what is the difference between the predicted and actual dependent variables for each of those years?

RESPONSE:

a.

The primary statistic by which I measure goodness-of-fit for my econometric models is mean-squared error (sum of squared residuals divided by degrees of freedom). In choosing between alternate variables (or, for example, alternate lags of a particular variable), the t-statistic on the estimated coefficient of the variable is also a primary consideration.

The decision of whether to include a variable within a particular equation is not, however, a purely statistical decision. The theoretical importance of a variable is also taken into consideration. So, for example, Postal Service prices are generally included in my econometric models even if the inclusion of price increases the mean-squared error for the equation, so long as the estimated own-price elasticity is of the expected sign (negative).

For the present case, I was asked to provide the best estimate of the volume losses which might be expected to result from the Postal Service's proposed changes to service standards. For some of the equations which I evaluated, the coefficient on the delivery variable was not statistically significant and its inclusion increased the mean-squared error of the model. Delivery time was still included in these models as the theoretical expectation that increased delivery times might be expected to lead to

volume losses overcame a simple evaluation of statistical significance. I also found it reassuring that the final estimated coefficients on average delivery time were highly consistent across the equations which I estimated at approximately -0.1 (with the exception of First-Class Workshared Letters).

b.

Full econometric output for the models which I present in my testimony can be found in the file out_ad.txt which was filed as part of Library Reference LR-N2021-1-5. This output includes regression residuals, which are equal to actual volume minus fitted volume. The dependent variables in my econometric equations are logged volumes (per adult per day), so these residuals can be interpreted as percentage differences between actual and fitted volumes.

Residuals for the equations which I present which did not include delivery time were filed as part of the Postal Service's annual filing with the Postal Regulatory Commission on January 20, 2021.

The traditional method of grouping residuals for statistical analysis is the sum of squared residuals. The sum of squared residuals over the three-year period from FY 2015 through FY 2017 for the nine equations presented in my testimony, with and without the delivery variables, are summarized in the table below.

RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS THRESS TO PRESIDING OFFICER'S INFORMATION REQUEST NO. 2

Delivery	Excluded	Included
First-Class SP Letters	0.001800	0.001549
First-Class SP Cards	0.010402	0.010081
First-Class SP Flats	0.002554	0.001790
First-Class WS Letters	0.000147	0.000202
First-Class WS Cards	0.017748	0.021195
First-Class WS Flats	0.006019	0.007826
Periodicals Regular	0.001825	0.002339
Periodicals In-County	0.003137	0.002876
Periodicals Nonprofit	0.004325	0.004329